

WHAT IS CLAIMED IS:

1. Voice connection system between humans and animals, in particular domestic animals, comprising:

- 5       - sensor means designed to be positioned on an animal, in particular on its head and/or neck, for converting pulses detected on the animal's body into electric signals indicating a status of said animal,
- 10       - processing means operatively associated to the sensor means, comprising memory means into which human voice messages corresponding to different statuses of the animal are recorded,
- 15       - loudspeaker means operatively connected to the processing means, the latter being designed to receive the electric signals coming from said sensor means and for activating said loudspeaker means in order to issue a voice message selected in said memory means, in function of the aforesaid electric signals received,
- 20       - voice recognition means operative for sending to the processing means signals representing the content of voice messages uttered by a human user, and
- 25       - pulse-generating means, which receive from said processing means said signals representing the content of the voice messages uttered by the human user, and which send to the animal's brain corresponding pulses,
- wherein
- a neural network control system is implemented into said processing means,
- 30       - said sensor means comprises electroencephalographic type sensors, i.e. operating for detecting electric activity in the animal's brain, and electromyographic type sensors, i.e. operating for detecting electric activity in the animal's muscles and/or nerves,
- 35       - at least first and second encephalographic type sensor means are placed close to a respective ear of

the animal, or anyhow close to its occipital-temporal region, and electromyographic type sensors means are placed on the animal's neck,

5       - said pulse-generating means are operative for sending radioelectric waves directly to the animal's brain.

2. System according to claim 1, wherein said recognition means are operative for converting the animal's vocalizations into radioelectric waves, through  
10       said pulse-generating means.

3. System according to claim 1, wherein said neural network control system is programmed for enabling a human/animal interactive self-learning procedure, where in particular

15       - the human user can correct or acknowledge with his/her voice messages the correctness of the voice messages issued by said loudspeaker means, and/or

20       - the animal can hear the human voice and the corresponding radioelectric waves simultaneously, thus associating the two stimuli.

4. System according to claim 1, wherein said sensor means, said processing means, said loudspeaker means, said voice recognition means and said pulse-generating means are integrated into a collar.

25       5. System according to claim 1, wherein said voice recognition means are used as means integrated and/or complementary to said sensor means, in order to improve the interpretation of the animal's status as detected through said sensor means.

30       6. System according to claim 1, wherein it is operative for developing in the time, through an evolutionary process, a language which is the animal's own language, thanks to the fact that the animal perceives  
35       - both with its own ears and through the stimuli produced by said pulse-generating means - its own vocali-

zation and the voice output of said loudspeaker means.

7. System according to claim 1, wherein said electric signals indicating a status of the animal are the result of stimuli, feelings, events, actions, behaviors, including those shown by the motion of the animal's muscles.